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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Yasuyoshi Ueda et al.

Serial No.: 10/501,698

Art Unit: 1653

Filed : February 3, 2005

Examiner: Satyendra K. Singh

Title : METHOD FOR STABILIZING REDUCED COENZYME Q<sub>10</sub> AND  
COMPOSITION THEREFOR

DECLARATION UNDER RULE 132

Honorable Commissioner of Patents and Trademarks,  
Alexandria, Virginia 22313-1450

Sir:

I, Takahiro Ueda, a citizen of Japan and having  
postal mailing address of 10-12-301, Tsutsumishiguchi-cho,  
Nishinomiya-shi, Hyogo 663-8231 JAPAN, declare and say  
that:

March, 2000, I was graduated from Kobe University  
Graduate School of Science and Technology, and received a  
Master Degree in chemistry;

Since April, 2000, I have been employed by Kaneka  
Corporation, and engaged in the works of Research and  
development for fine chemicals in New Products  
Development Team, New Business Development Group, QOL  
Division;

I am one of the inventors of the above-identified  
application and am familiar with the subject matter  
thereof;

I have read the Official Action mailed and the  
references cited therein and I am familiar with the  
subject matter thereof;

I respectfully submit herewith my exact report  
thereon;

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Experiments

The following additional experiments were conducted.

## &lt;Experiment 1&gt;

Medium-chain fatty acid triglyceride (MCT;  $C_8:C_{10} = 6:4$ ) and a surfactant (diglycerol monooleate, or, Tween 80) were mixed up with stirring in weight ratio indicated in table below, and the crystals obtained in Production Example 2 were dissolved in the mixture at 40°C to a concentration of 3% (w/v). After 3 days of storage in the air at 40°C under a light-shielded condition, the reduced coenzyme  $Q_{10}$ /oxidized coenzyme  $Q_{10}$  weight ratio in each solution was determined. The results thus obtained are shown in the Table below.

MOT/surfactant weight ratio	Reduced coenzyme $Q_{10}$ /oxidized coenzyme $Q_{10}$ weight ratio	
	diglycerol monooleate	Tween 80
100/0	98.5/3.5	98.5/3.5
90/10	85.5/4.5	90.5/9.5
70/30	81.8/8.4	16.2/83.8
50/50	81.0/9.0	19.4/80.6

## &lt;Experiment 2&gt;

Medium-chain fatty acid triglyceride (MCT;  $C_8:C_{10} = 6:4$ ) and diglycerol monooleate (Riken Vitamin Co., Ltd.'s Poem DO-100V) were mixed up with stirring in weight ratio indicated in table below, and the crystals obtained in Production Example 2 were dissolved in the mixture at 40°C to a concentration of 3% (w/v). After 3 days of storage in the air at 40°C under a light-shielded condition, the reduced coenzyme  $Q_{10}$ /oxidized coenzyme  $Q_{10}$  weight ratio in each solution was determined. The results thus obtained are shown in the Table below.

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MCT/diglycerol monooleate weight ratio	Reduced coenzyme Q <sub>10</sub> /oxidized coenzyme Q <sub>10</sub> weight ratio
100/0	98.5/3.5
80/20	92.7/7.3
60/40	91.0/9.0

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I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed this 16th day of May, 2012

A handwritten signature in cursive script, reading "Takahiro Ueda", is written over a horizontal line.

Takahiro Ueda